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(54) MEASURING APPARATUS

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(57) Abstract:

PURPOSE: To obtain a flow rate sensor in which the flow rate can be measured with no DC drift while compensating for the temperature.

CONSTITUTION: A temperature measuring resistor 12 and a heating element 11 are formed of a thin platinum film on a thin diamond film 13. The temperature measuring resistor 12 detects the transient response characteristics of the thin diamond film 13 to the pulsation heating of the heating element 11. The transient response characteristics thus detected are evaluated at a CPU 107. On the other hand, temperature of the fluid is detected by means of a temperature detection resistor 111. Finally, a temperature compensated flow rate is calculated using the transient response characteristics and the temperature of the fluid. This constitution can determine a flow rate which is not dependent on the temperature of the fluid.

